

AMENDMENTS TO THE DRAWINGS

Amendments have been made to the drawings to correct informalities, typographical errors and delete extraneous text, and were not necessitated to overcome any prior art.

Amendments are shown to Figs 13, 19, 24B, 24C, 39, 41, 44, 45A, 62A, 62B, 65, 66, 67, 68, 70, 71, 72, 73, 74, 75, 76, 77, 78, 84, 85, 86, 87, 88, 94, 95, 98, 99, 100, and 101 on the 33 attached Annotated Sheets Showing Changes. No new matter has been introduced by these amendments.

The attached 158 sheets of Replacement Drawings include changes to the figures to comply with 37 CFR 1.84 and replace the drawing sheets as originally filed. Several drawings as originally filed have been divided into two or more sheets in the Replacement Drawings to comply with 37 CFR 1.84. Several drawings were renumbered in the Description of Drawings in the Preliminary Amendment submitted upon filing, July 6, 1999. To avoid confusion and for the convenience of the Office, the figure/sheet correlations are shown in the following table:

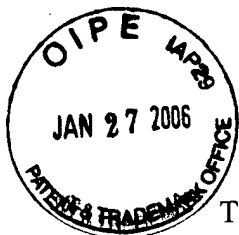
Originally Filed Fig(s). No:	Replaced as Fig(s). No.:	Replacement Sheet No.:
1	1	1
2	2	2
3	3A	3
	3B	4
4	4A	5
	4B	6
5	5	7
6	6A	8
	6B	9
7	7A	10
	7B	11
8	8A	12
	8B	13
	8C	14
9	9A	15
	9B	16
	9C	17
10	10A	18
	10B	19
	10C	20
11	11	21
12	12	21
13	13	22
14	14A	23
14a	14B	23

Originally Filed Fig(s). No:	Replaced as Fig(s). No.:	Replacement Sheet No.:
15	15	24
16	16A	24
16a	16B	25
16b	16C	26
17	17	27
18	18	28
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21	21	29
22	22	30
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	23B	32
24	24A	33
25	25	33
24a	24B-1	34
24a	24B-2	35
24b	24C-1	36
	24C-2	37
24c	24D-1	38
	24D-2	39
	24D-3	40
	24D-4	41
26	26A	42
	26B	43
27	27	44
28	28A	45
	28B	46
	28C	47
29	29	48
30	30	49
31	31	50
32	32	50
33	33	50
34a	34A	51
34b	34B	51
34c	34C	51
35	35	52
36	36	52
37	37	53
38	38	54
39	39A	55
	39B	56
40	40	57
41	41A	58
	41B	58
42	42	59
43	43	59

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45a	45B-1	62
	45B-2	63
46	46	57
47	47	64
48	48	65
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49a	49B	67
50	50	68
51	51	69
52	52	69
53a	53A	70
53b	53B	70
53c	53C	71
53d	53D	71
53e	53E	72
53f	53F	72
54	54	73
55	55	74
56	56	75
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58	58	77
59	59	78
60	60	79
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62a	62A	80
62b	62B	81
63	63A	82
	63B	83
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Originally Filed Fig(s). No:	Replaced as Fig(s). No.:	Replacement Sheet No.:
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98	98	115
99	99	116
100	100	117
101	101	117
102	102	118
103	103	119
104a	104A	120
104b	104B	120
104c	104C	121
104d	104D	121
104e	104E	122
104f	104F	122
105a	105A	123
105b	105B	123
105c	105C	124
105d	105D	124
105e	105E	125
106a	106A	126
106b	106B	126
107	107A	127
	107B	128
	107C	129
108a	108A-1	130
	108A-2	131
108b	108B-1	132
	108B-2	133
	108-B-3	134
109	109A	135
	109B	136
	109C	137

Originally Filed Fig(s). No:	Replaced as Fig(s). No.:	Replacement Sheet No.:
110	110A	138
	110B	139
111	111	140
112	112	141
113	113	142
114a	114A-1	143
	114-A-2	144
114b	114B	144
115	115	145
116	116A	146
	116B	147
117	117A	148
	117B	149
	117C	150
	117D	151
118	118	152
119	119	153
120	120A	154
	120B	155
	120C	156
	120D	157
Prior Art A	121	158
Prior Art B	122	158

REMARKS

This paper is responsive to the Notice Regarding Drawings dated January 6, 2006.

Applicant submits Replacement Drawings herewith to correct informalities and comport with the requirements of 37 CFR 1.84.

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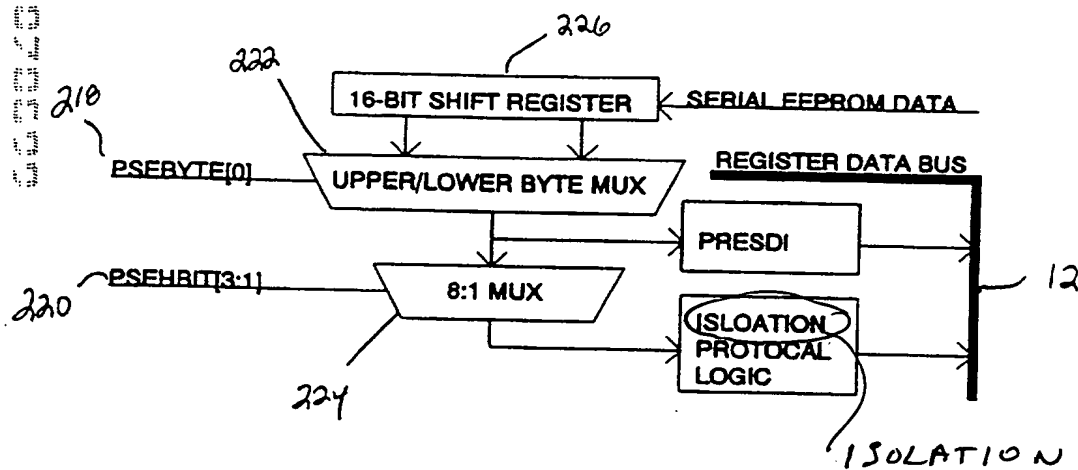
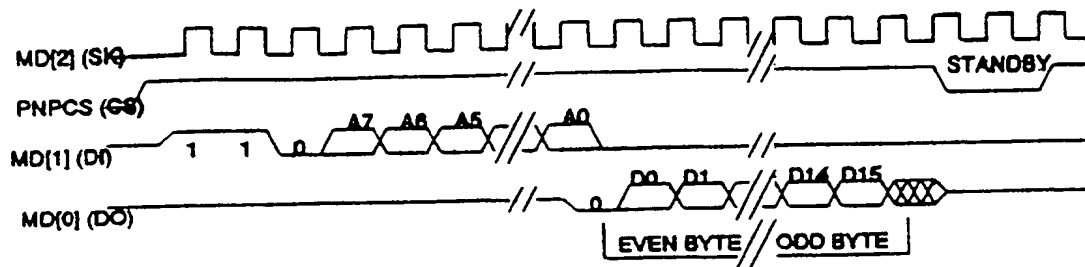
N/A

Respectfully submitted,



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# SUSPEND MODE FLOWCHART

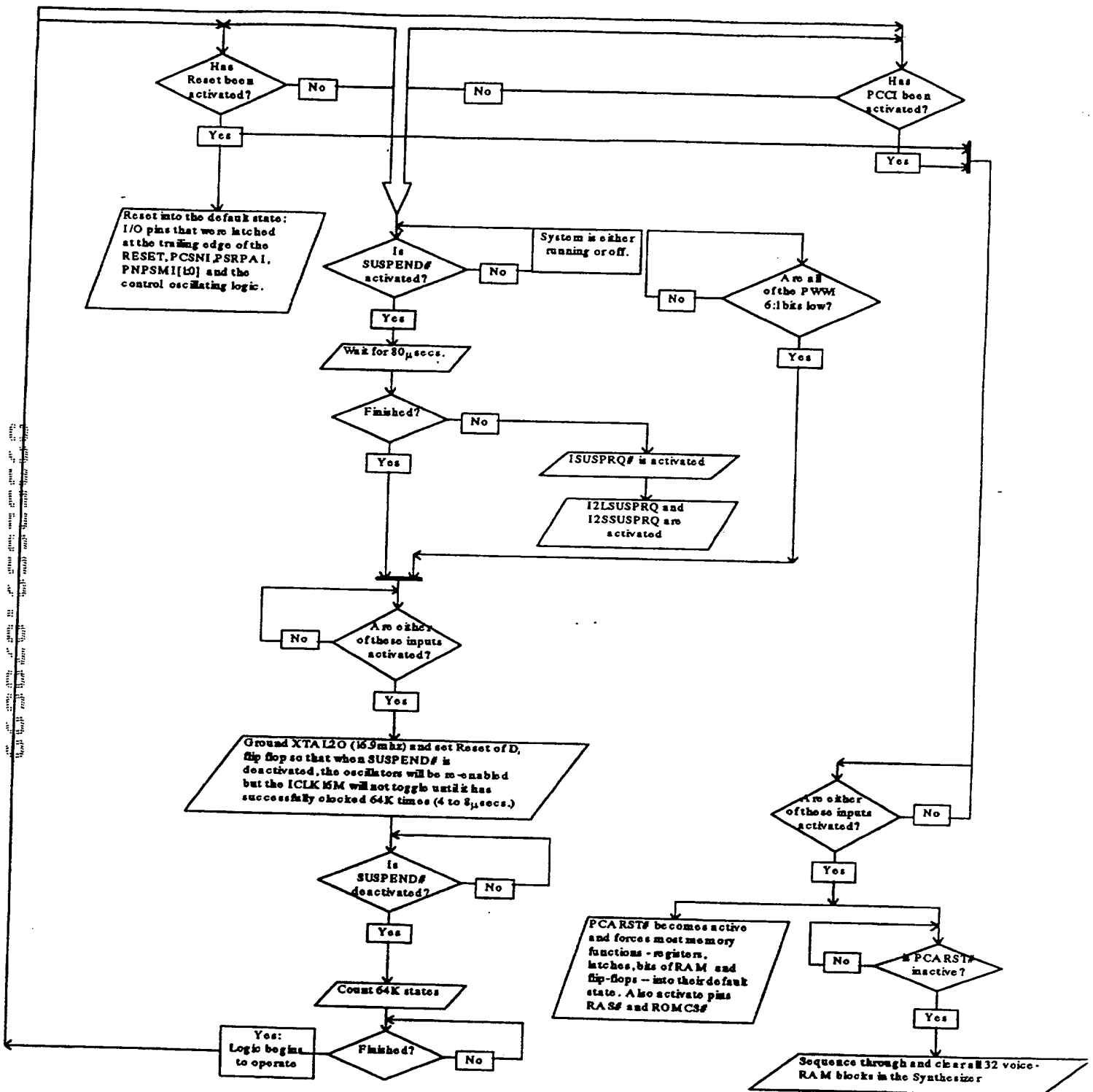


Figure 24b

# REGISTER CONTROLLED LOW-POWER MODE FLOWCHART

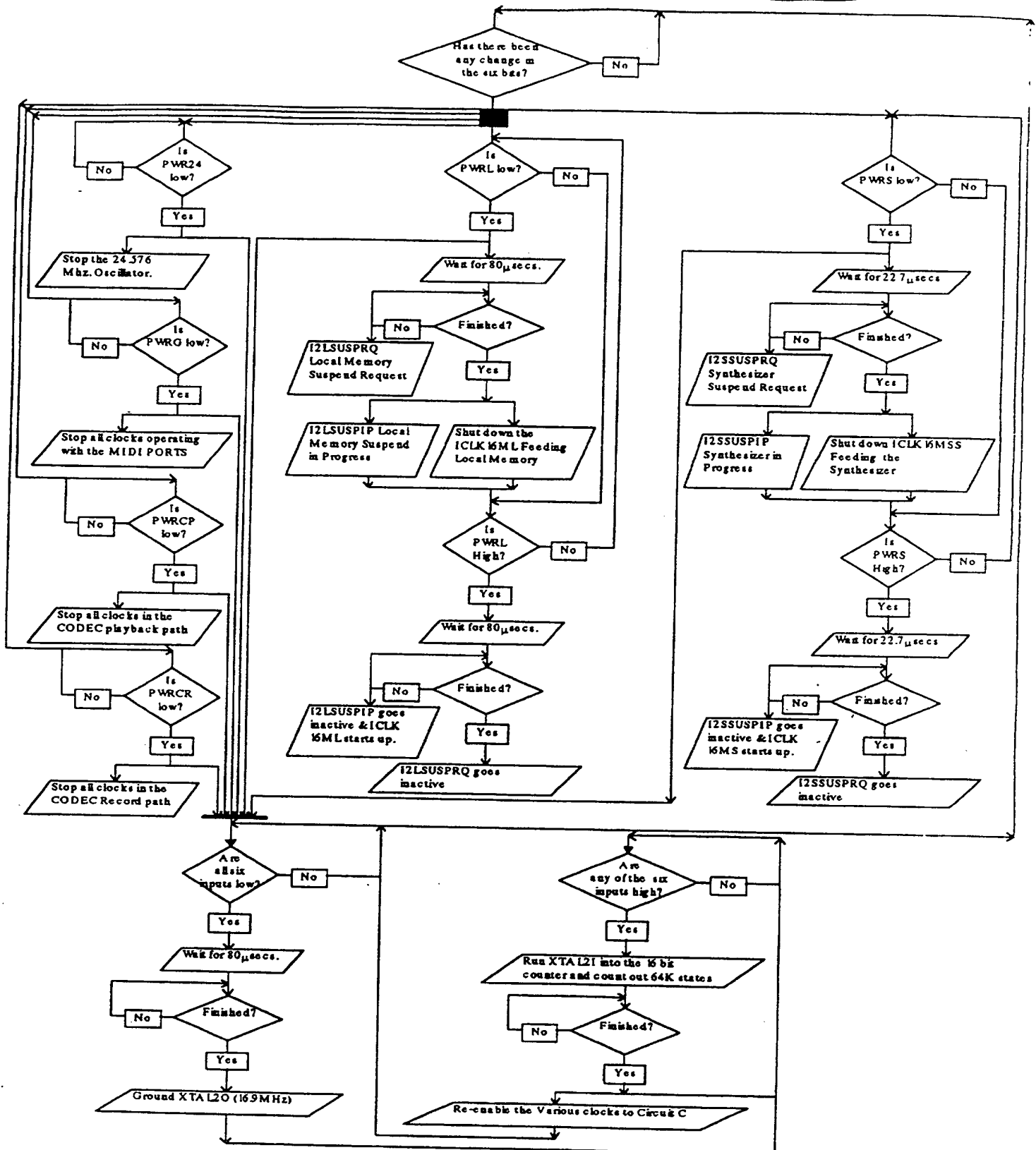


Figure 24c

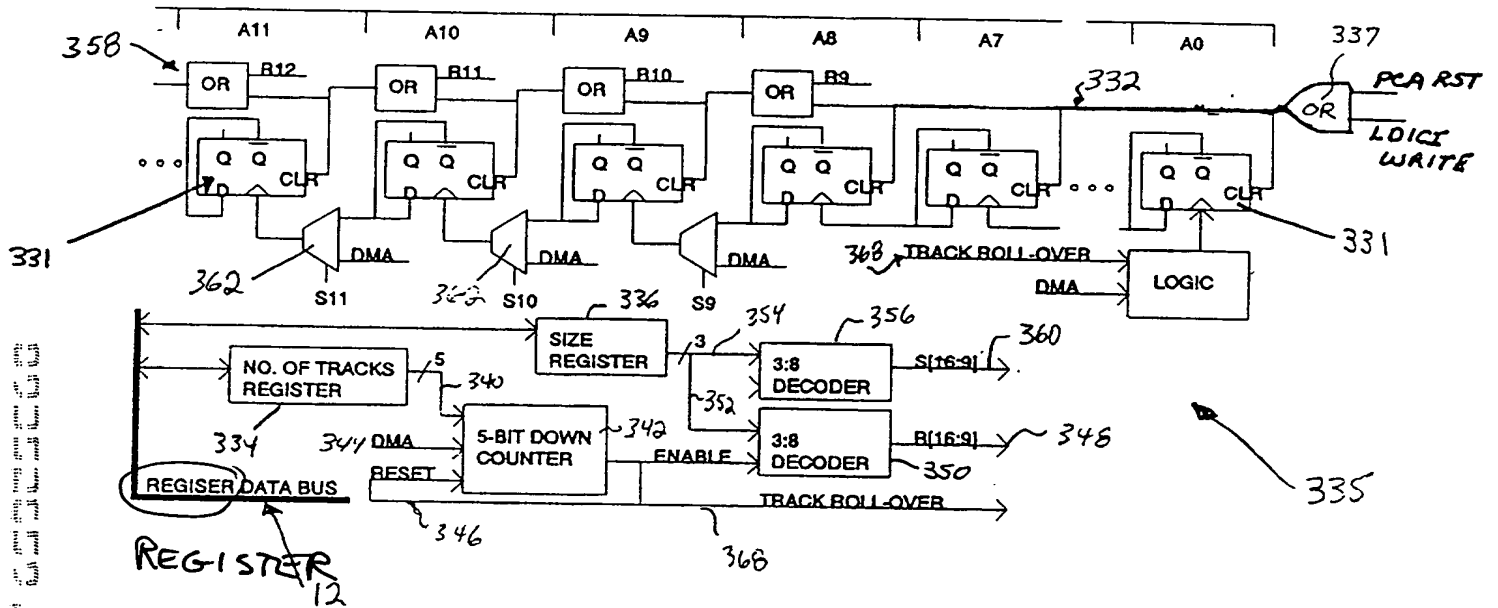
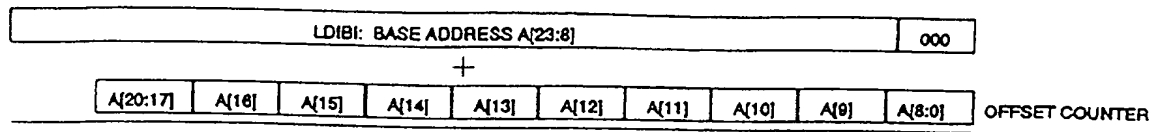
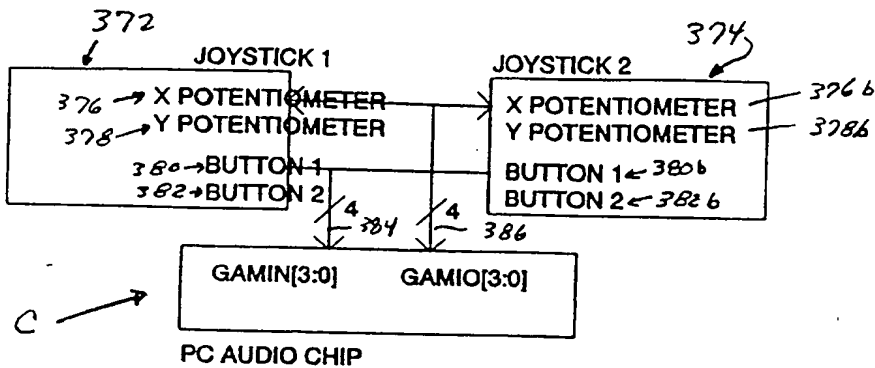


FIGURE 39



## SYSTEM CONFIGURATION

FIGURE 40

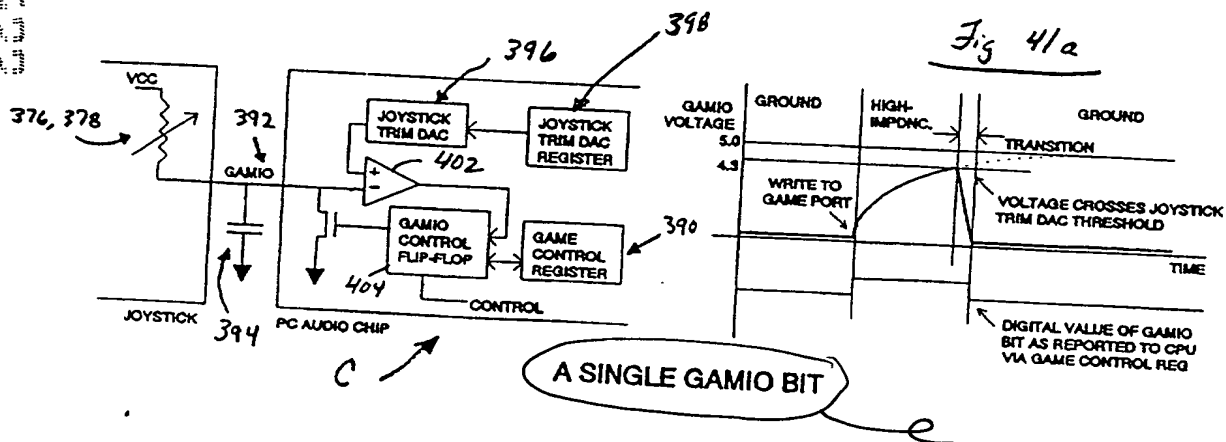


FIGURE 41



# GAIN AND ATTENUATION VALUES

0 to +22.5dB (4-bit) gain table							
Value	dB	Value	dB	Value	dB	Value	dB
00h	00.0	04h	+06.0	08h	+12.0	0Ch	+18.0
01h	+01.5	05h	+07.5	09h	+13.5	0Dh	+19.5
02h	+03.0	06h	+09.0	0Ah	+15.0	0Eh	+21.0
03h	+04.5	07h	+10.5	0Bh	+16.5	0Fh	+22.5

0 to -45.0dB (4-bit) attenuation table							
Value	dB	Value	dB	Value	dB	Value	dB
00h	00.0	04h	-12.0	08h	-24.0	0Ch	-36.0
01h	-03.0	05h	-15.0	09h	-27.0	0Dh	-39.0
02h	-06.0	06h	-18.0	0Ah	-30.0	0Eh	-42.0
03h	-09.0	07h	-21.0	0Bh	-33.0	0Fh	-45.0

12 to -34.5dB (5-bit) gain-attenuation table							
Value	dB	Value	dB	Value	dB	Value	dB
00h	+12.0	08h	00.0	10h	-12.0	18h	-24.0
01h	+10.5	09h	-01.5	11h	-13.5	19h	-25.5
02h	+09.0	0Ah	-03.0	12h	-15.0	1Ah	-27.0
03h	+07.5	0Bh	-04.5	13h	-16.5	1Bh	-28.5
04h	+06.0	0Ch	-06.0	14h	-18.0	1Ch	-30.0
05h	+04.5	0Dh	-07.5	15h	-19.5	1Dh	-31.5
06h	+03.0	0Eh	-09.0	16h	-21.0	1Eh	-33.0
07h	+01.5	0Fh	-10.5	17h	-22.5	1Fh	-34.5

0 to -46.5dB (5-bit) attenuation table for CLOAI and CROAI							
Value	dB	Value	dB	Value	dB	Value	dB
00h	00.0	08h	-12.0	10h	-24.0	18h	-36.0
01h	-01.5	09h	-13.5	11h	-25.5	19h	-37.5
02h	-03.0	0Ah	-15.0	12h	-27.0	1Ah	-39.0
03h	-04.5	0Bh	-16.5	13h	-28.5	1Bh	-40.5
04h	-06.0	0Ch	-18.0	14h	-30.0	1Ch	-42.0
05h	-07.5	0Dh	-19.5	15h	-31.5	1Dh	-43.5
06h	-09.0	0Eh	-21.0	16h	-33.0	1Eh	-45.0
07h	-10.5	0Fh	-22.5	17h	-34.5	1Fh	-46.5

0 to -94.5dB (6 bit) attenuation table							
Value	dB	Value	dB	Value	dB	Value	dB
00h	00.0	10h	-24.0	20h	-48.0	30h	-72.0
01h	-01.5	11h	-25.5	21h	-49.5	31h	-73.5
02h	-03.0	12h	-27.0	22h	-51.0	32h	-75.0
03h	-04.5	13h	-28.5	23h	-52.5	33h	-76.5
04h	-06.0	14h	-30.0	24h	-54.0	34h	-78.0
05h	-07.5	15h	-31.5	25h	-55.5	35h	-79.5
06h	-09.0	16h	-33.0	26h	-57.0	36h	-81.0
07h	-10.5	17h	-34.5	27h	-58.5	37h	-82.5
08h	-12.0	18h	-36.0	28h	-60.0	38h	-84.0
09h	-13.5	19h	-37.5	29h	-61.5	39h	-85.5
0Ah	-15.0	1Ah	-39.0	2Ah	-63.0	3Ah	-87.0
0Bh	-16.5	1Bh	-40.5	2Bh	-64.5	3Bh	-88.5
0Ch	-18.0	1Ch	-42.0	2Ch	-66.0	3Ch	-90.0
0Dh	-19.5	1Dh	-43.5	2Dh	-67.5	3Dh	-91.5
0Eh	-21.0	1Eh	-45.0	2Eh	-69.0	3Eh	-93.0
0Fh	-22.5	1Fh	-46.5	2Fh	-70.5	3Fh	-94.5

FIGURE 45a

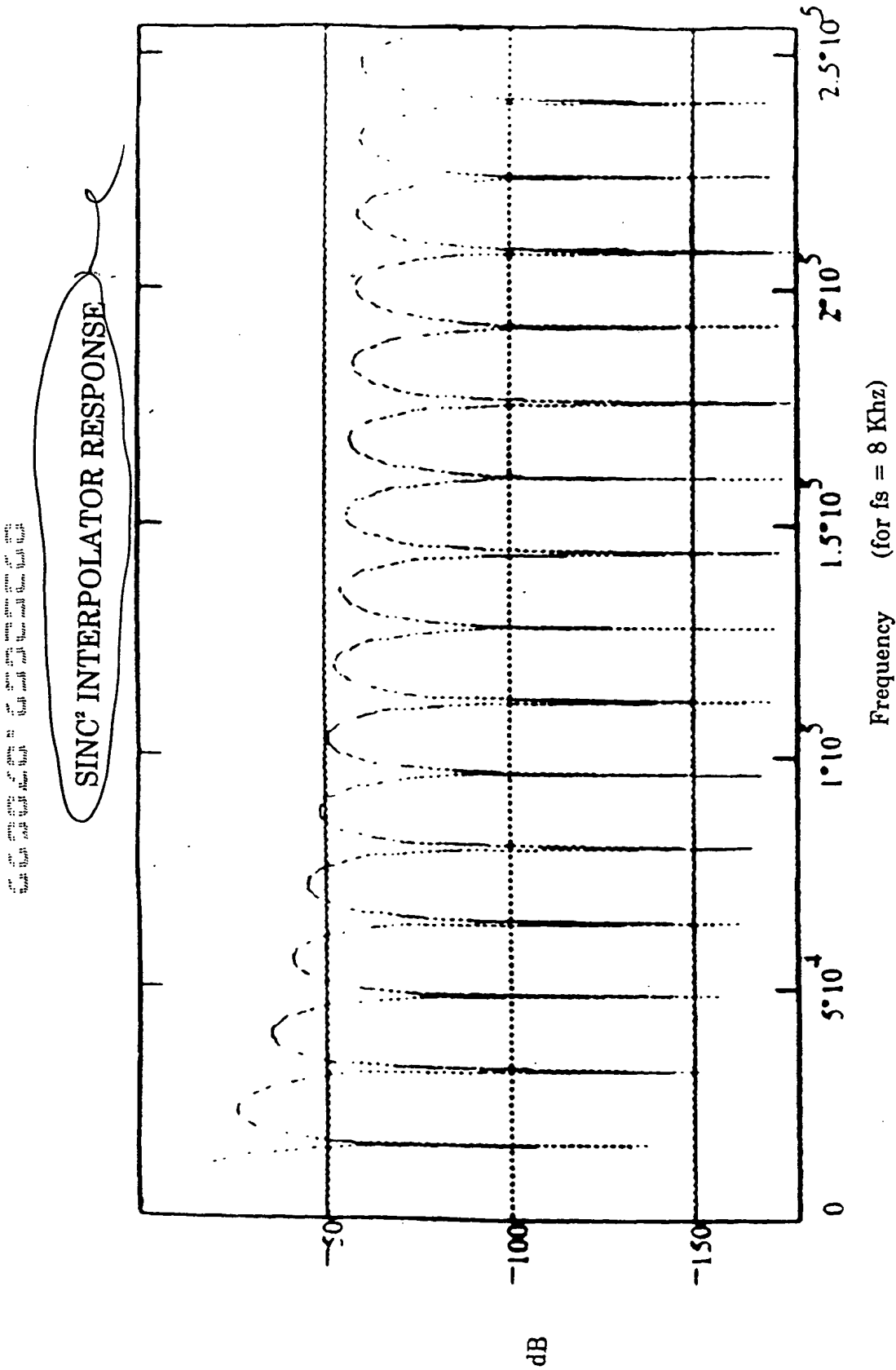


FIGURE 62a

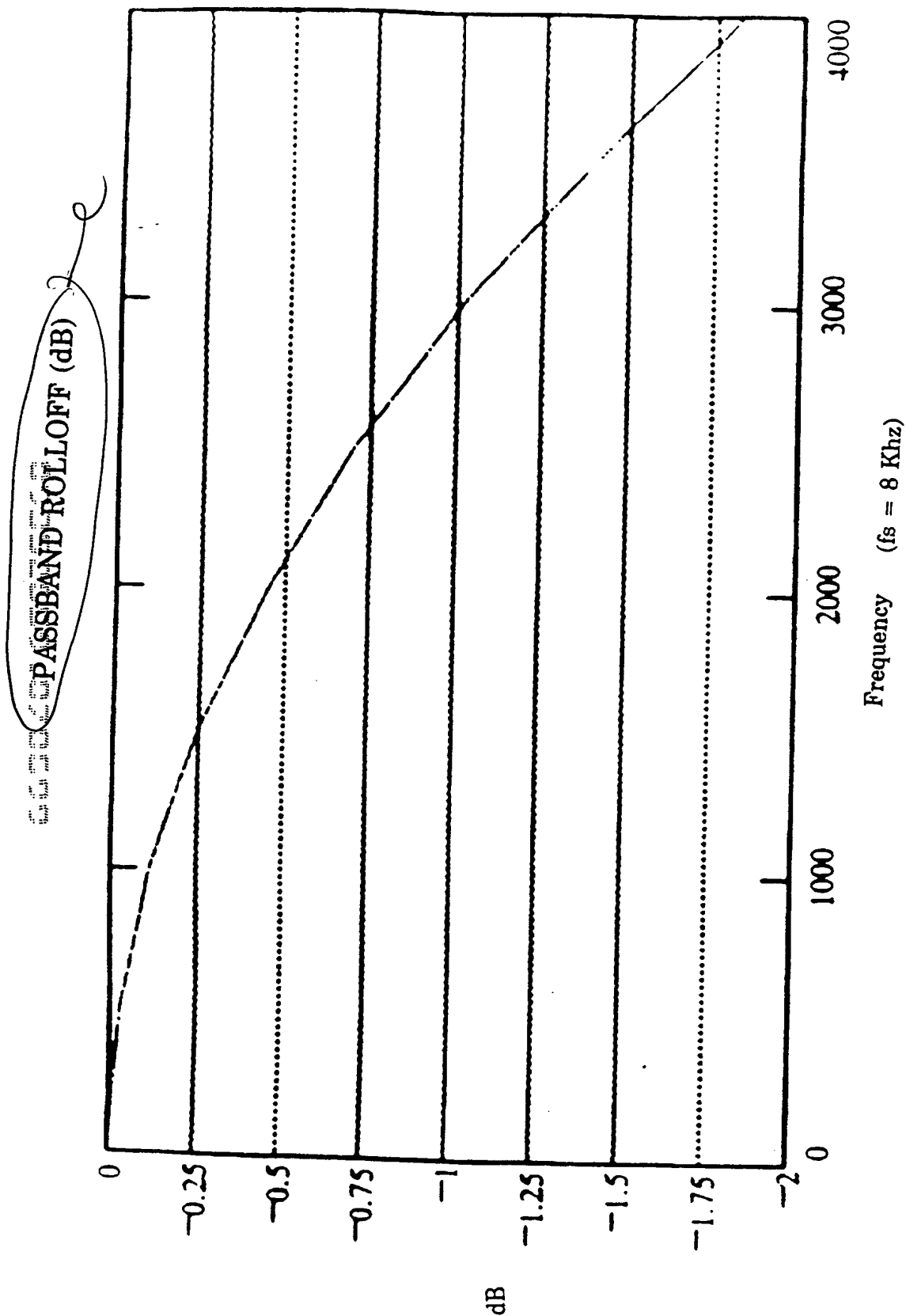


FIGURE 62b



Plot of poles and zeros in  $s$  plane (COMPLEX FREQ.)  
IN CONTINUOUS TIME DOMAIN

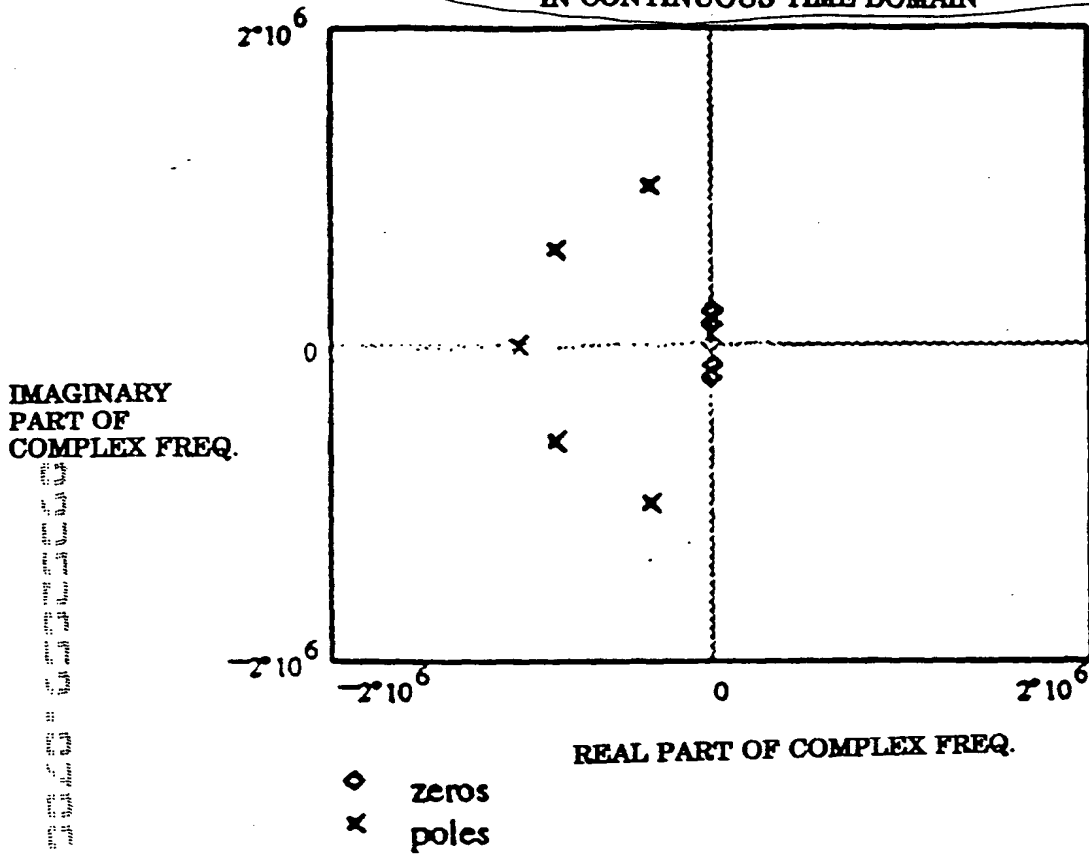


FIGURE 65

PLOT OF TRANSFER FUNCTION MAGNITUDE (CONTINUOUS  
FREQUENCY DOMAIN)

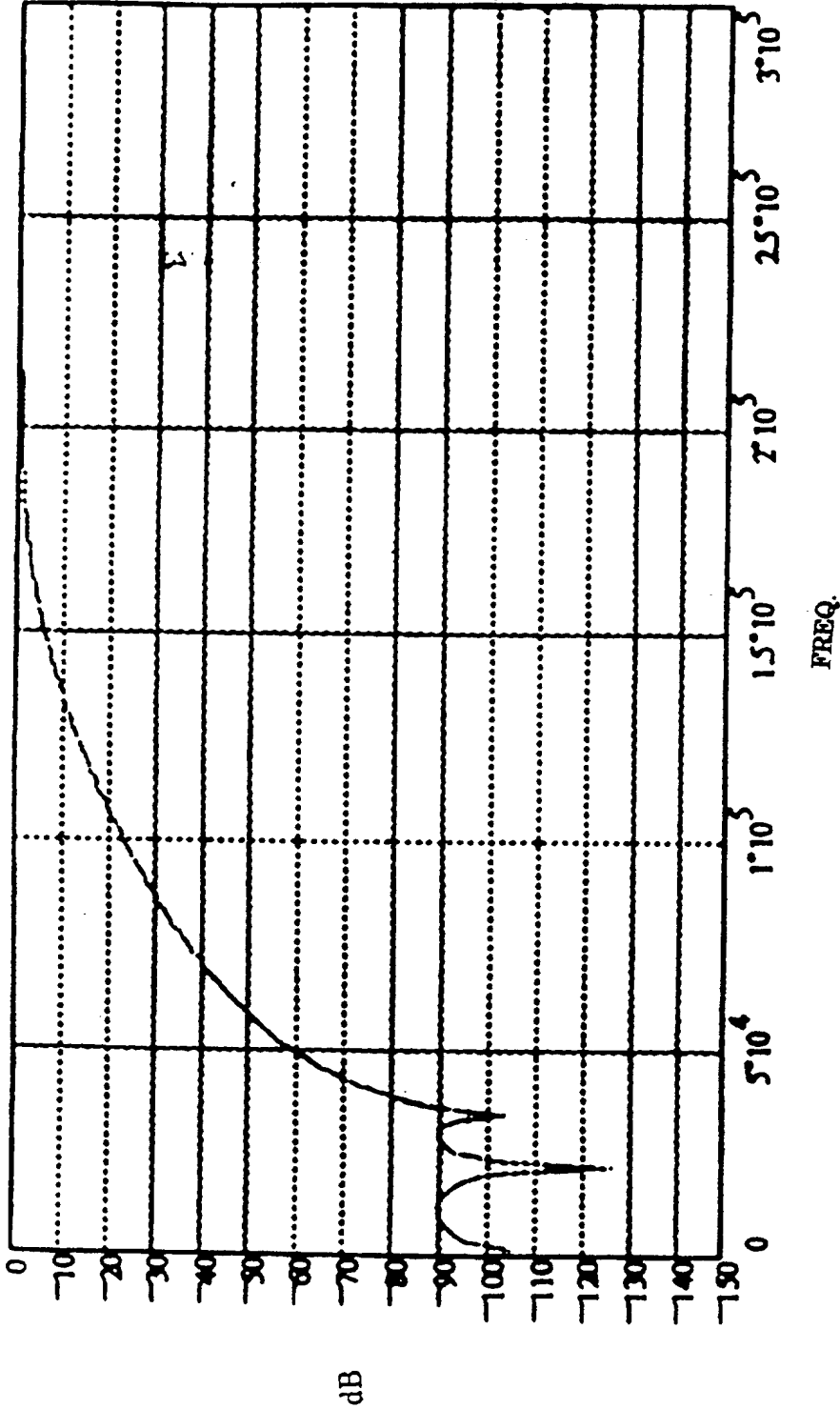
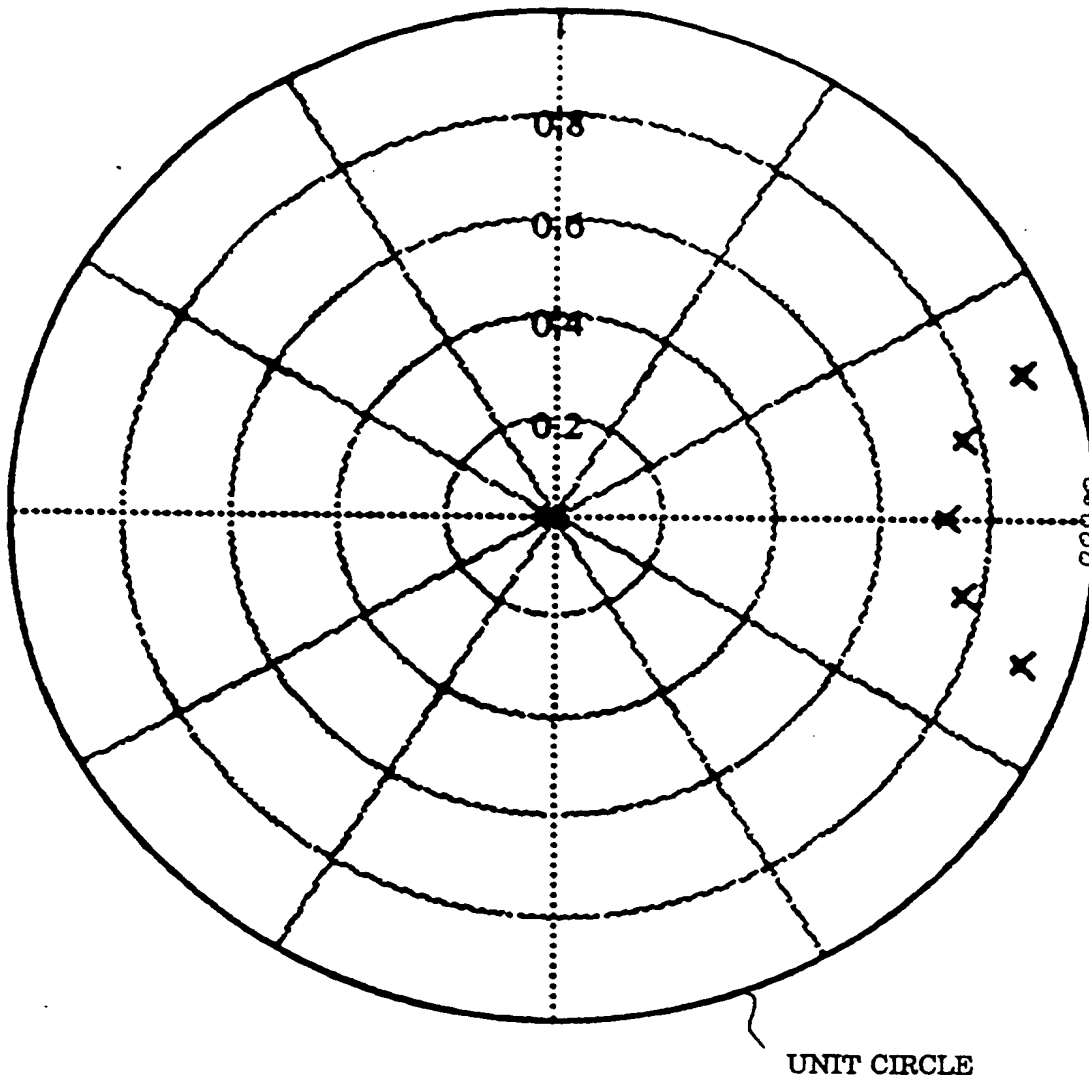


FIGURE 66

POLES AND ZEROS IN Z PLANE (DIGITAL FREQUENCY DOMAIN)

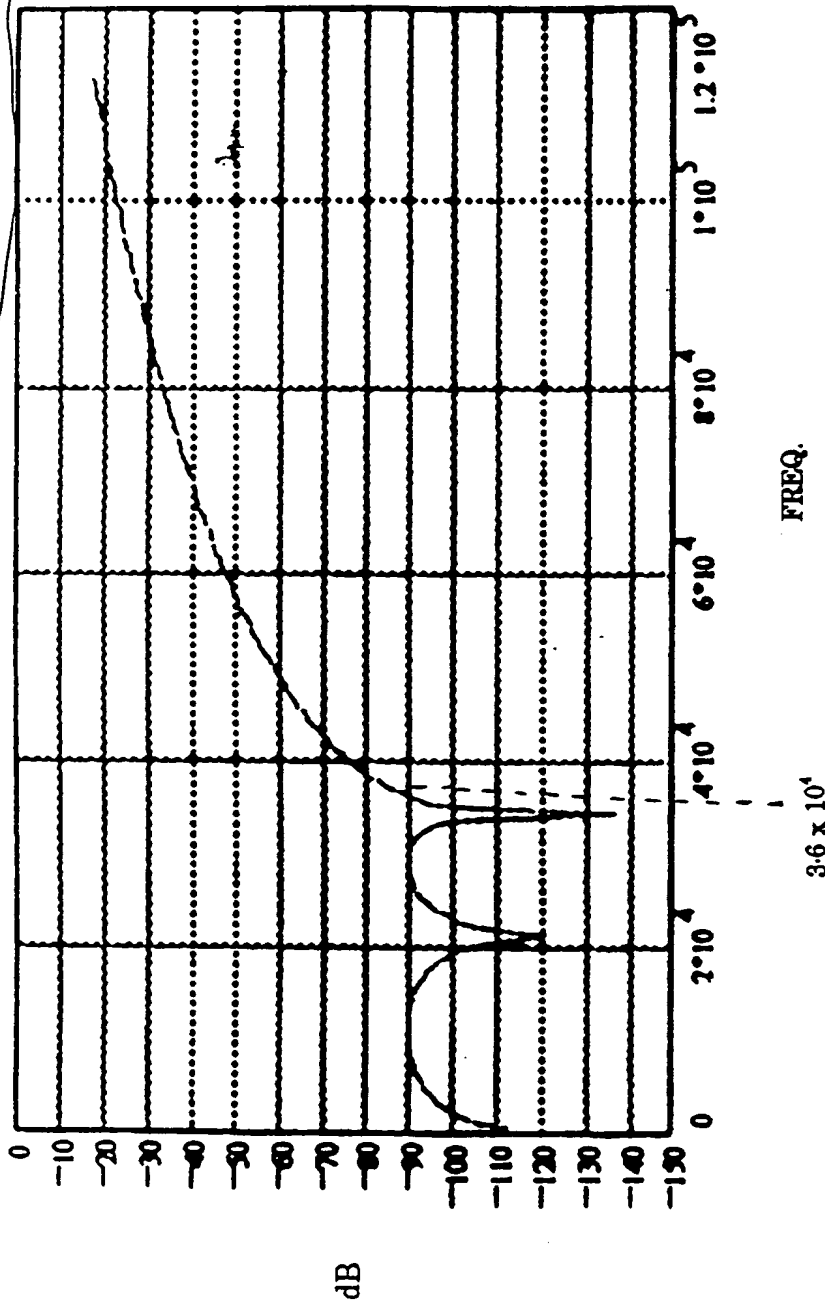


X = POLES

O = ZEROS

FIGURE 67

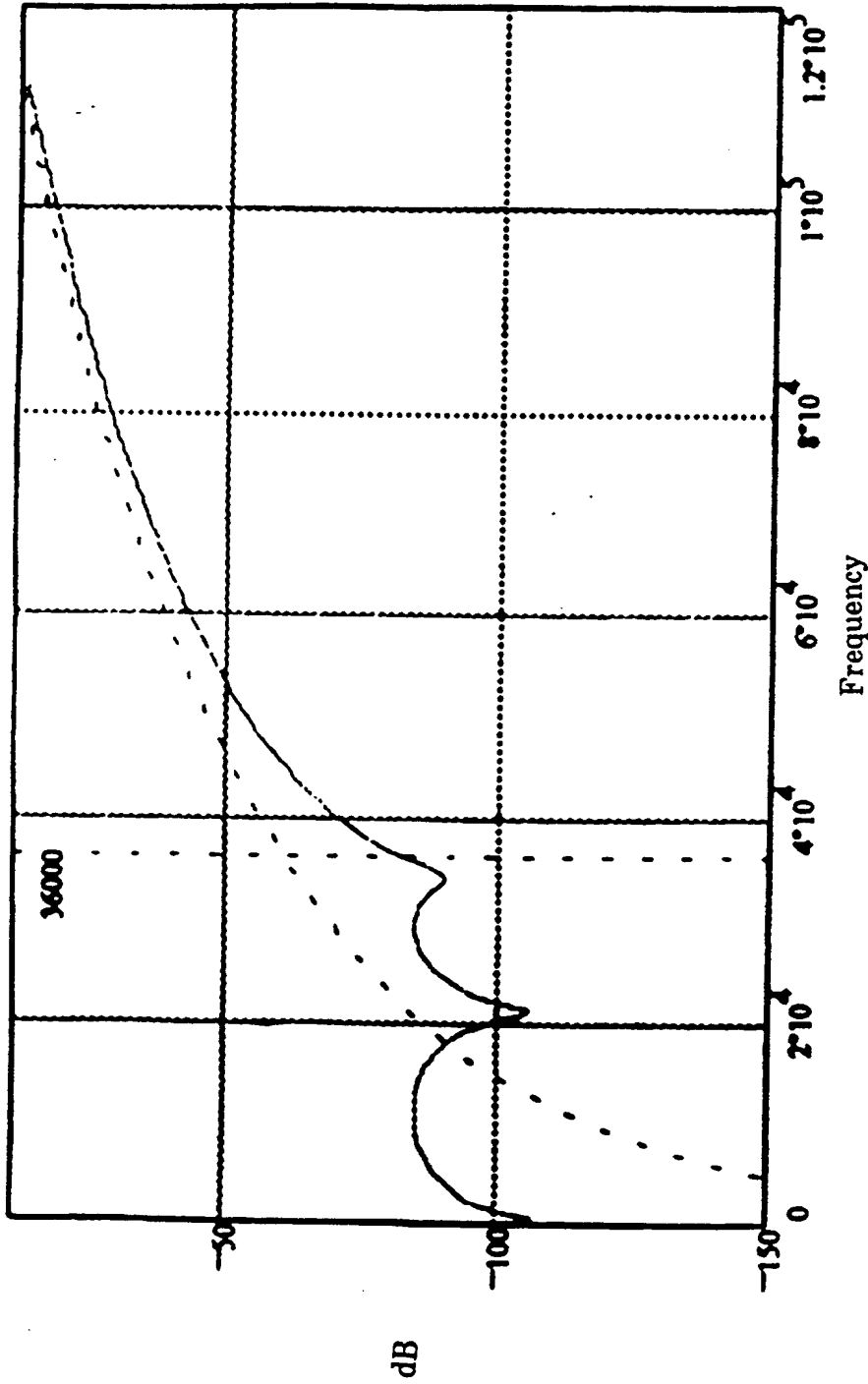
Transfer Function of discrete Filter (DIGITAL FREQUENCY DOMAIN)



( $f_s = 48 \text{ KHZ}$ )

FIGURE 68

NOISE TRANSFER FUNCTION MAGNITUDES



— Chebyshev zeros (realizable zeros in Fig. 26)  
- - - all zeros at  $z=1$

FIGURE 70

MAGNITUDE OF NOISE AND SIGNAL TRANSFER FUNCTIONS (IN dB)

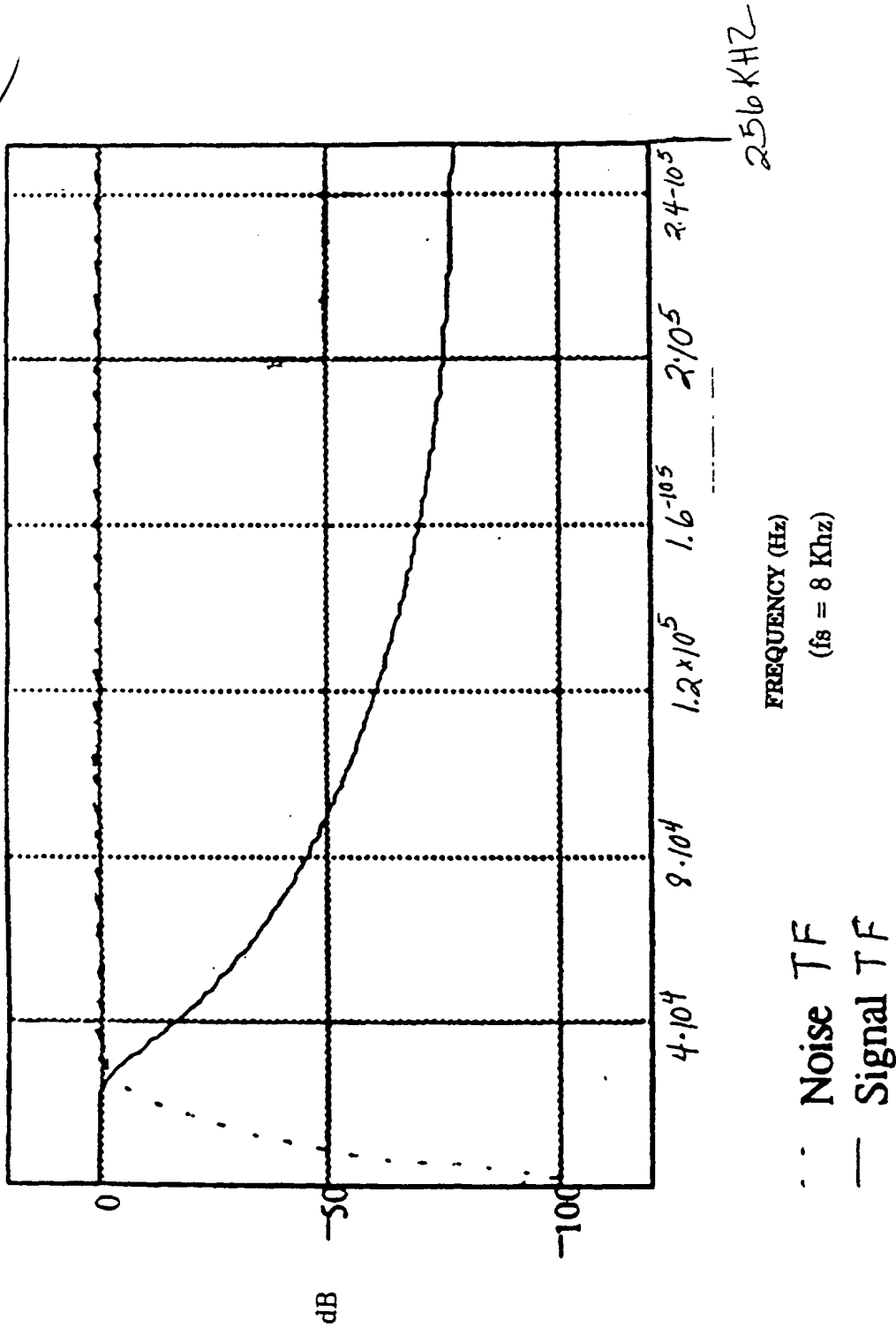
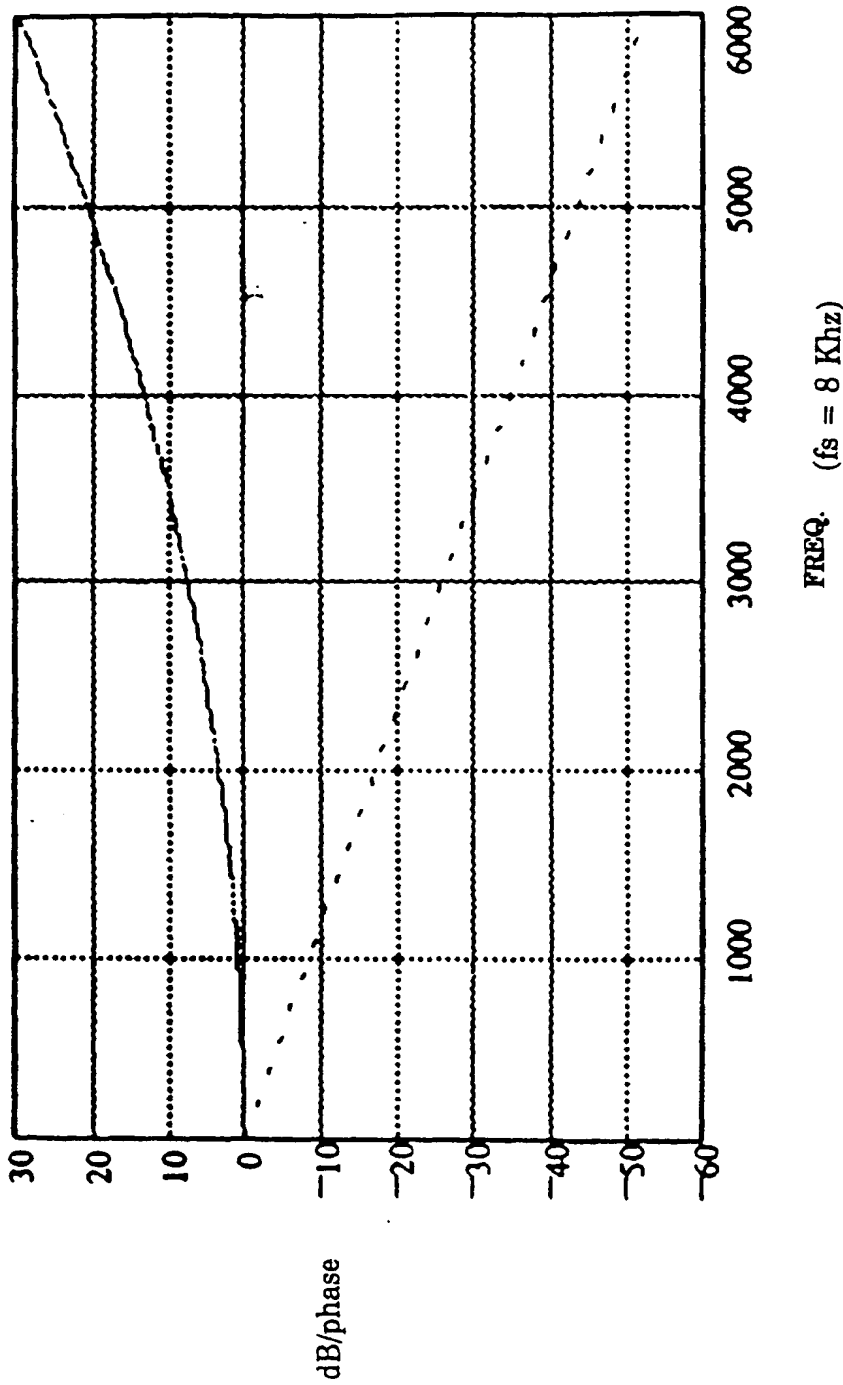


FIGURE 71

SIGNAL TF MAGNITUDE (X10<sup>3</sup>) AND PHASE (X10<sup>3</sup>) IN PASSBAND



— Magnitude \* 1000 (dB)  
- - Phase \* 100 (rad)

FIGURE 72

Group Delay (sec)

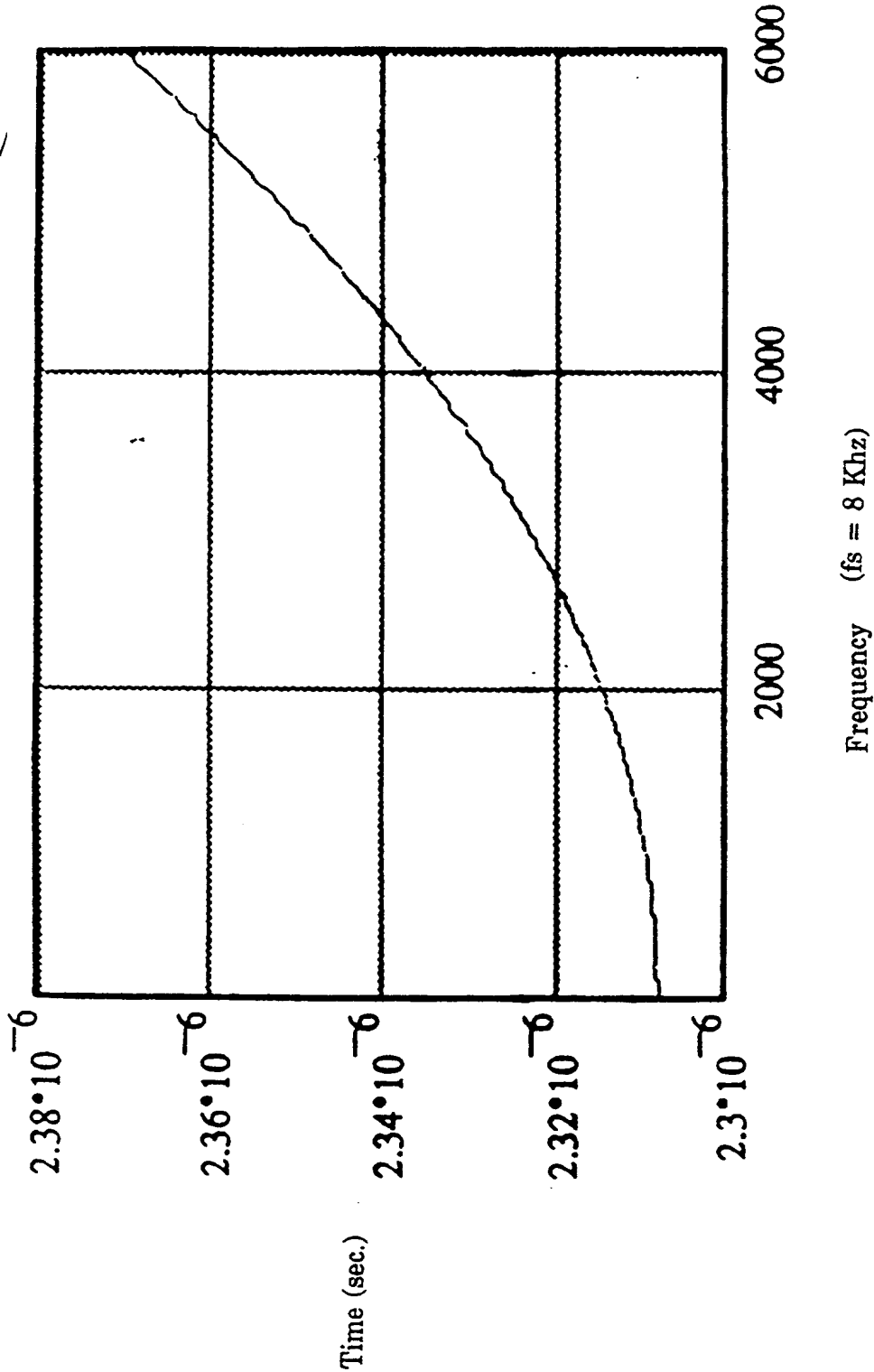


FIGURE 73



Constant Noise Gain Contours -  $K$

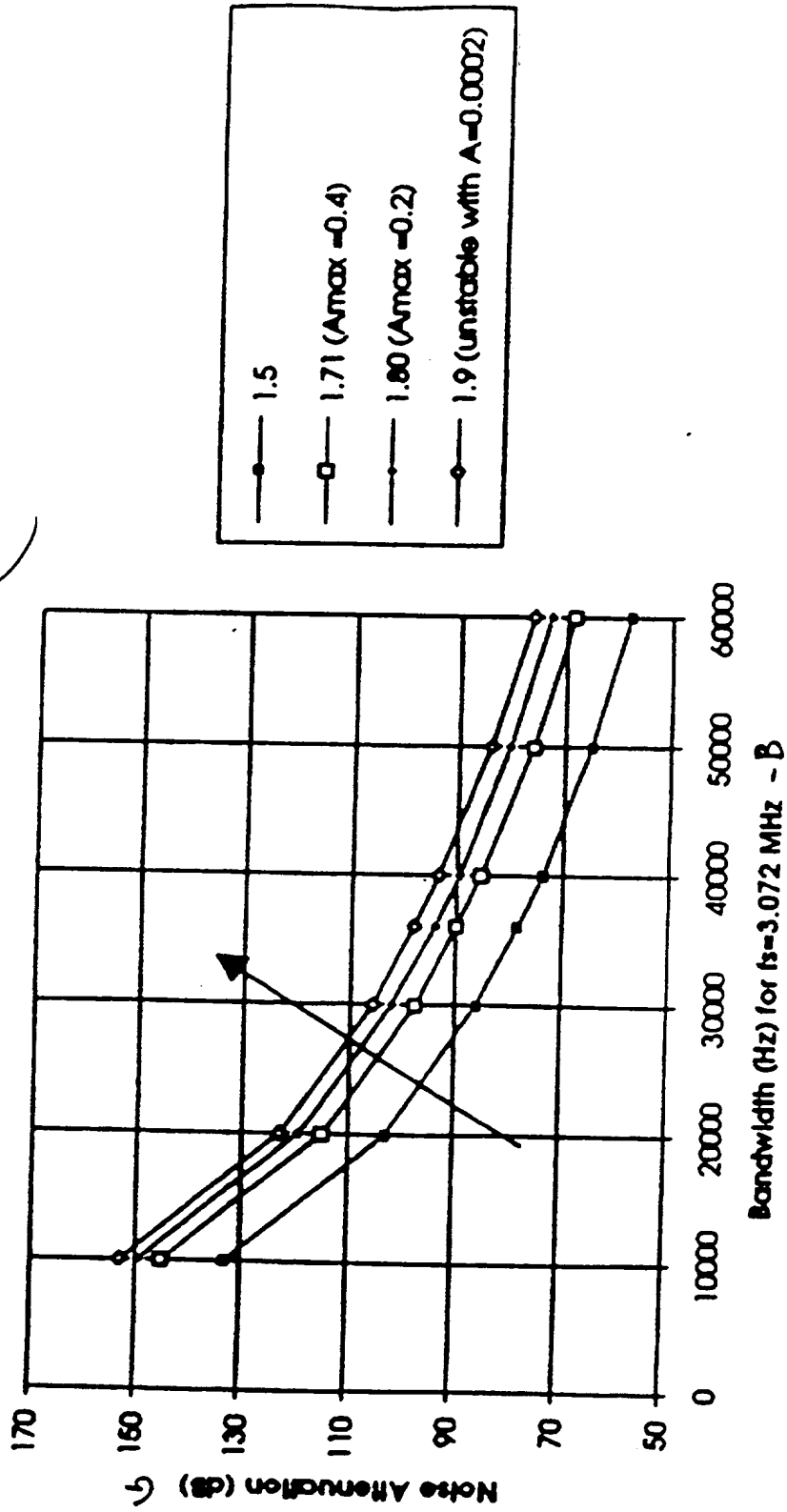


FIGURE 74

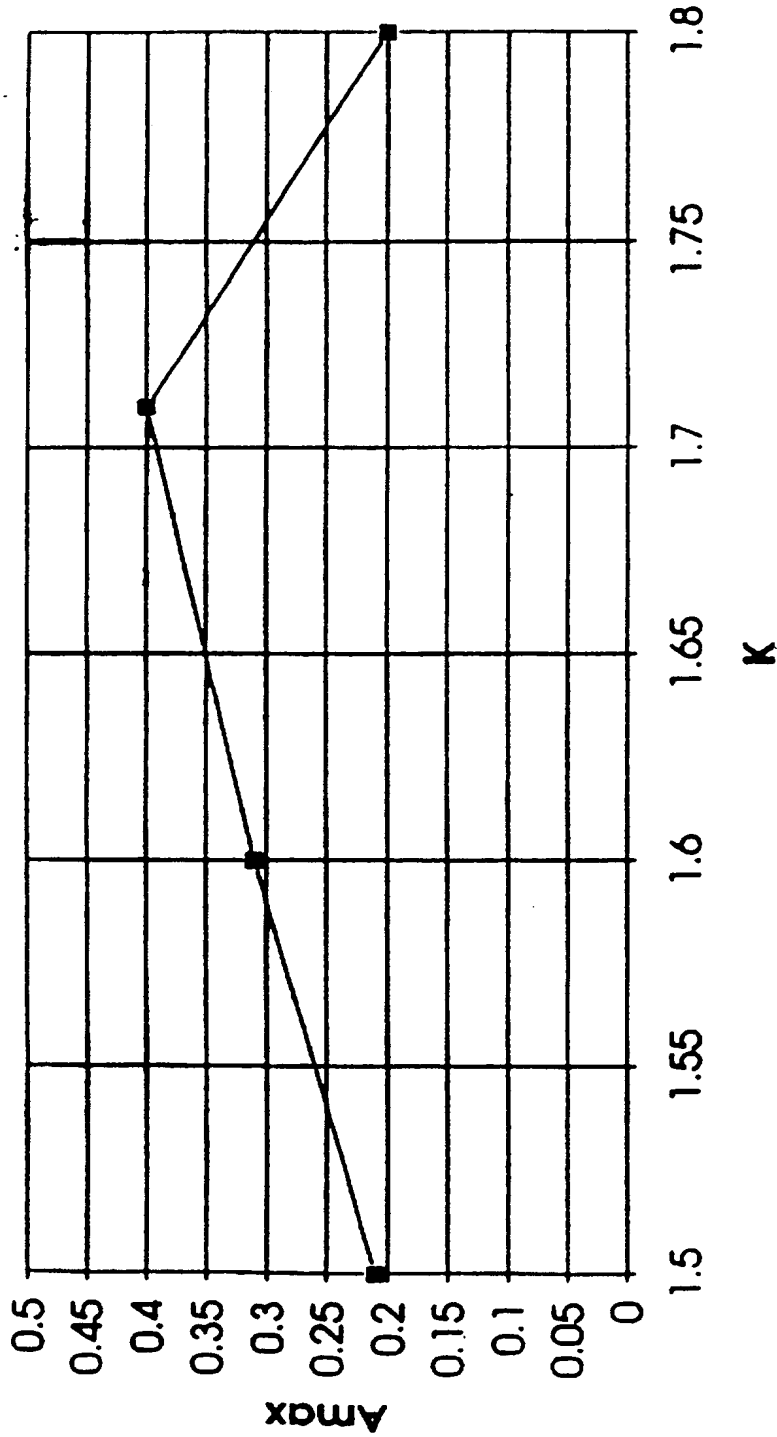


FIGURE 75

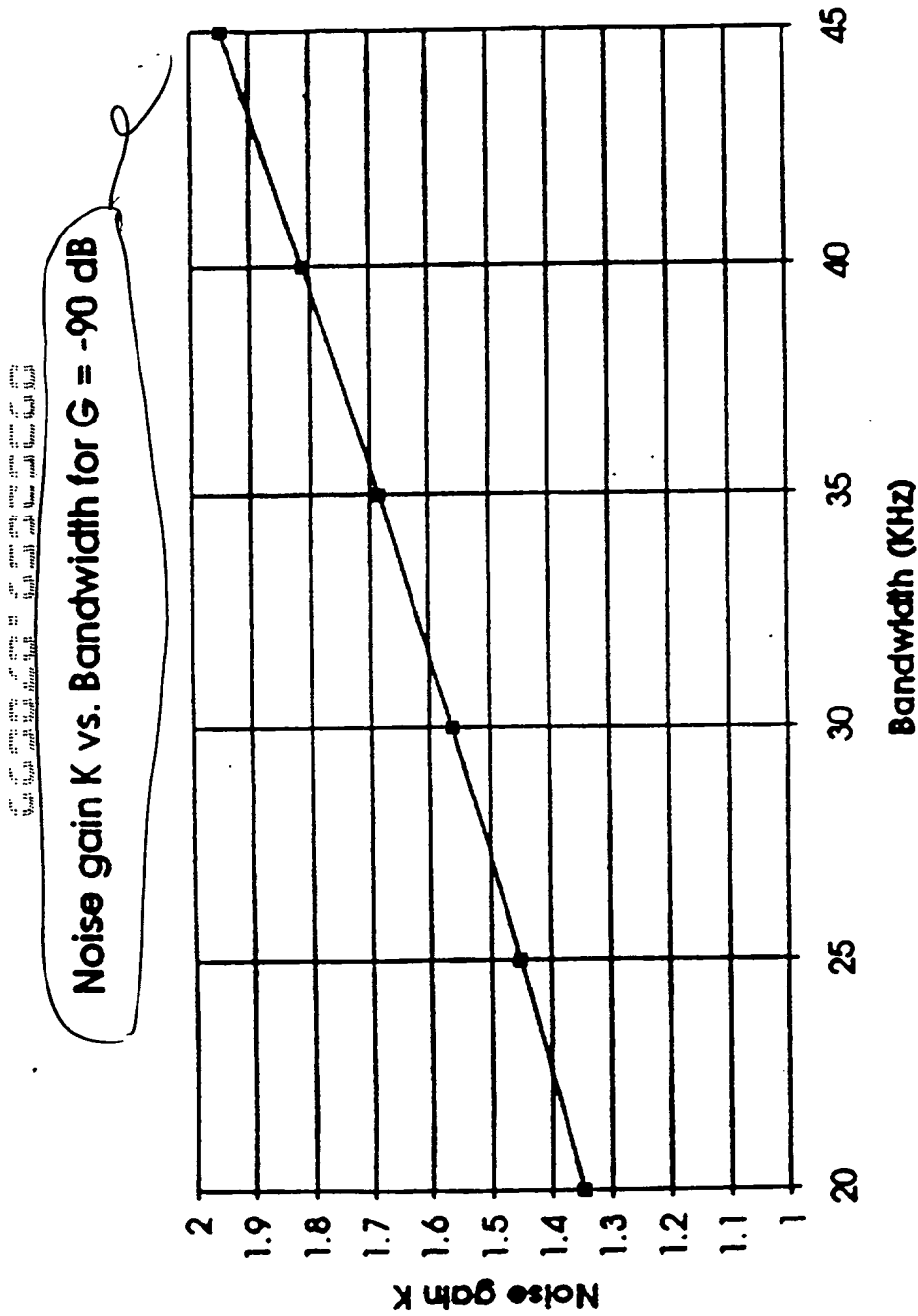


FIGURE 76

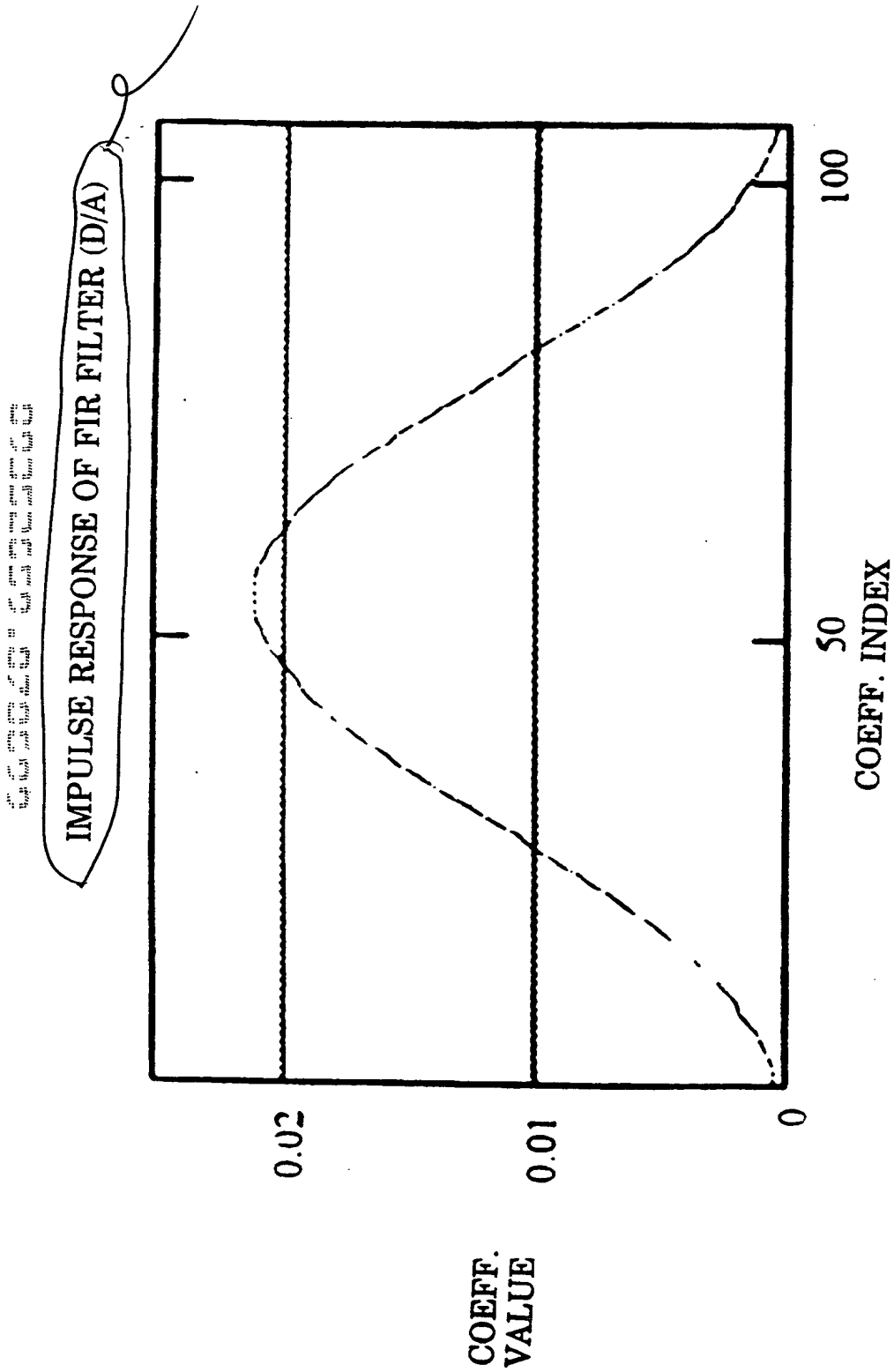


FIGURE 77

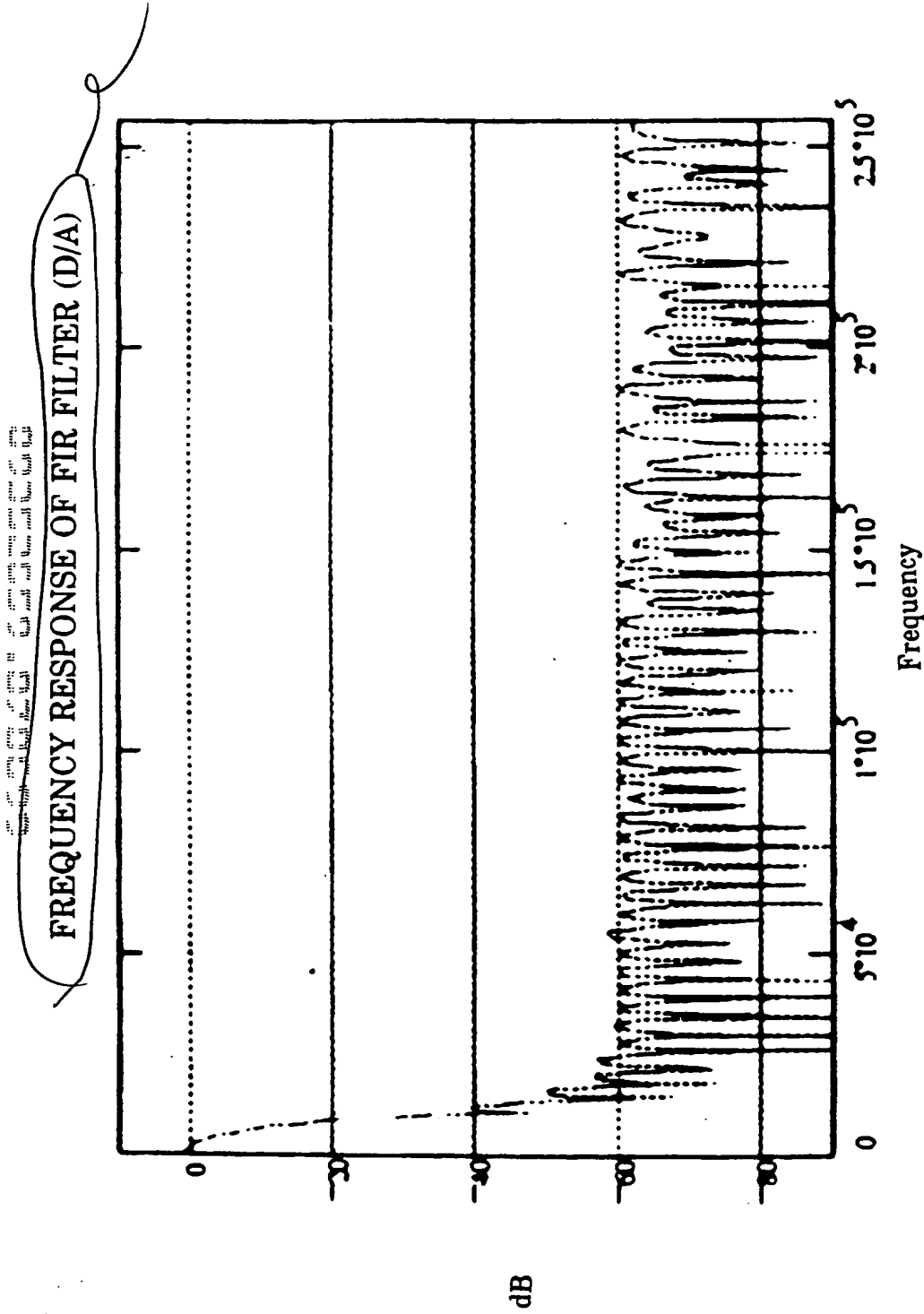
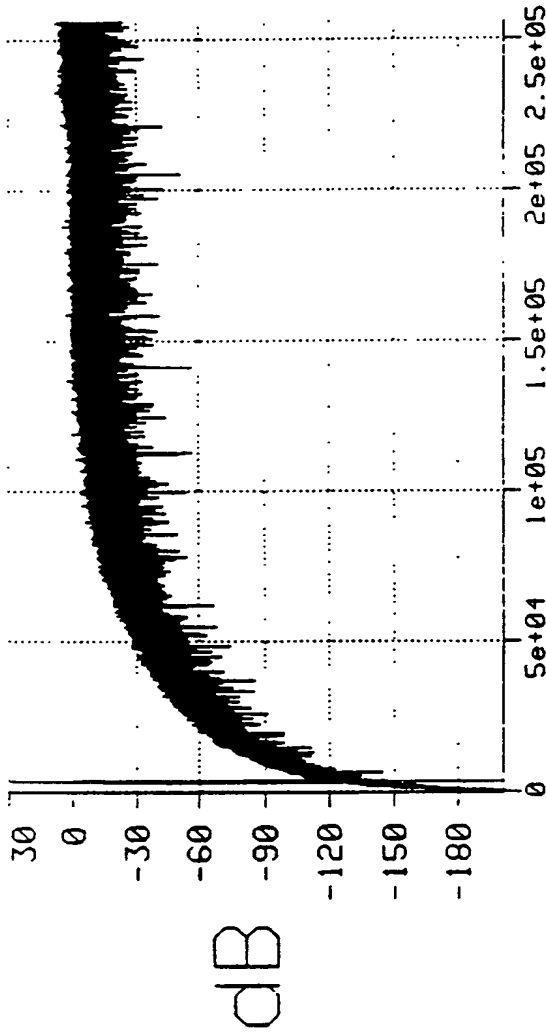


FIGURE 78

MODULATOR OUTPUT SPECTRUM--FULL RANGE



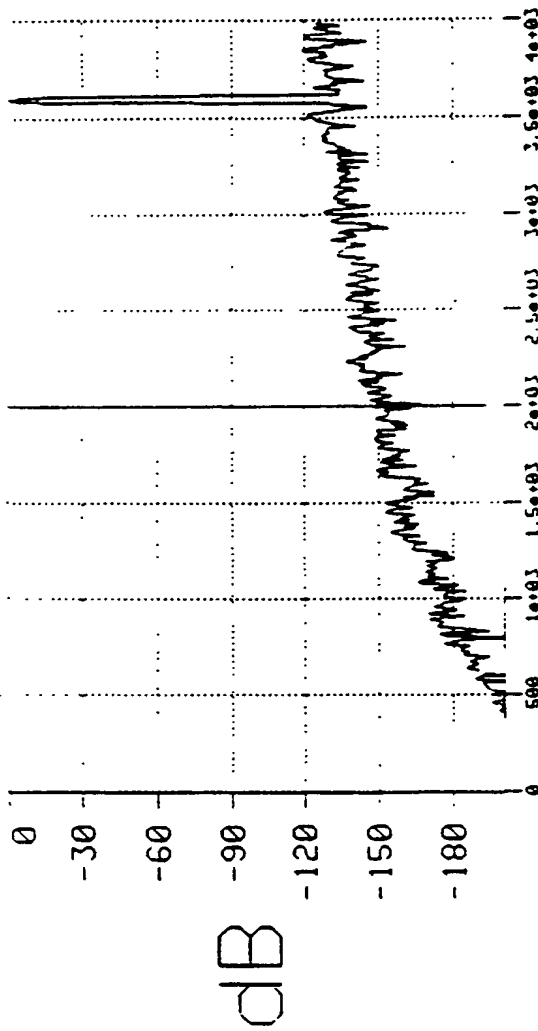
Point = 13229 of 65537  
 Freq. = 3601.56  
 dB = 0  
 Phase = -2.5257



PI IN SE

FIGURE 84

MODULATOR OUTPUT SPECTRUM--DETAIL

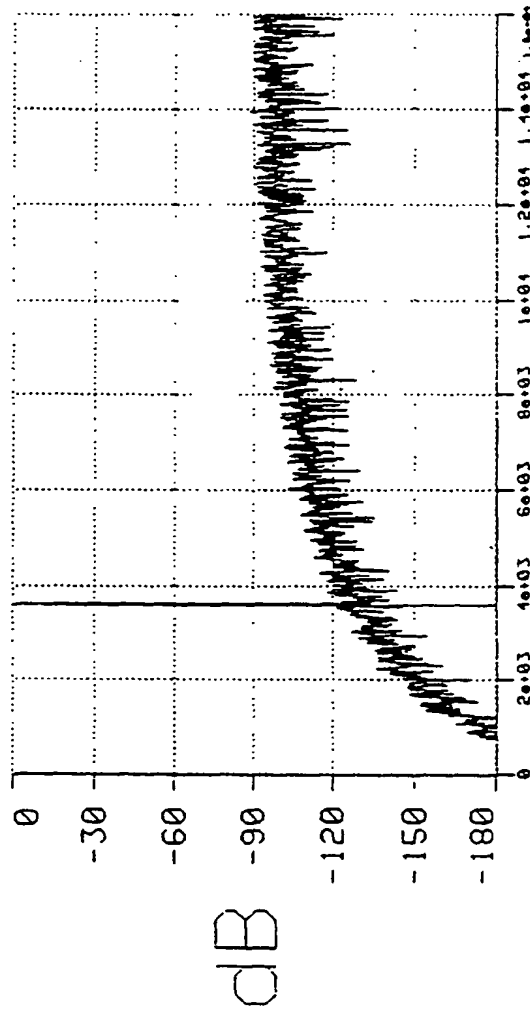


Point = 13025 of 65517  
Freq. = 2007.81  
dB = -147.494  
Phase = -2.1843



FIGURE 85

SPECTRUM OF SINC ~ 6 DECIM.1 FILTER OUTPUT



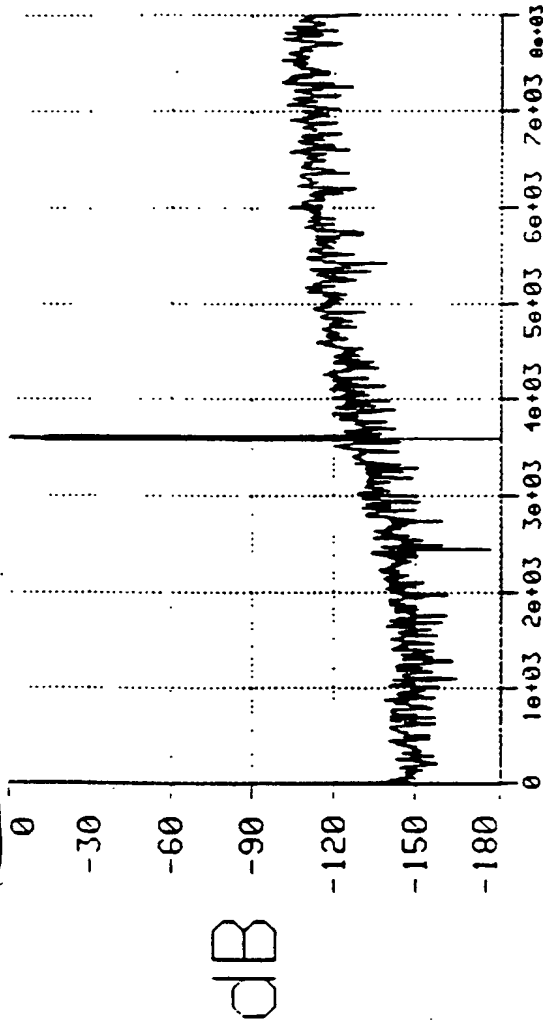
Point = 2509 of 4097  
Freq. = 3601.56  
dB = 0  
Phase = 1.16017



FIGURE 86



SPECTRUM OF HALF-BAND DECIM.2 FILTER OUTPUT

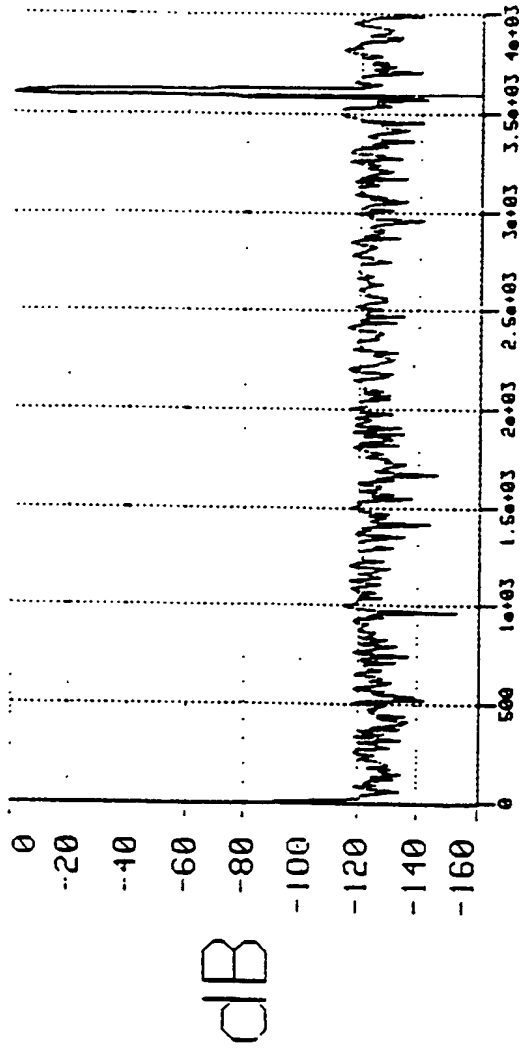


Point = 1485 of 2019  
Freq. = 3601.56  
dB = 0  
Phase = -1.22977



FIGURE 87

SPECTRUM OF 16-BIT DECIM.3 FILTER OUTPUT



Point = 973 of 1025  
 Freq. = 3601.56  
 dB = -1.85561  
 Phase = -1.85561



FIGURE 88

Decim.2 Filter Frequency Response

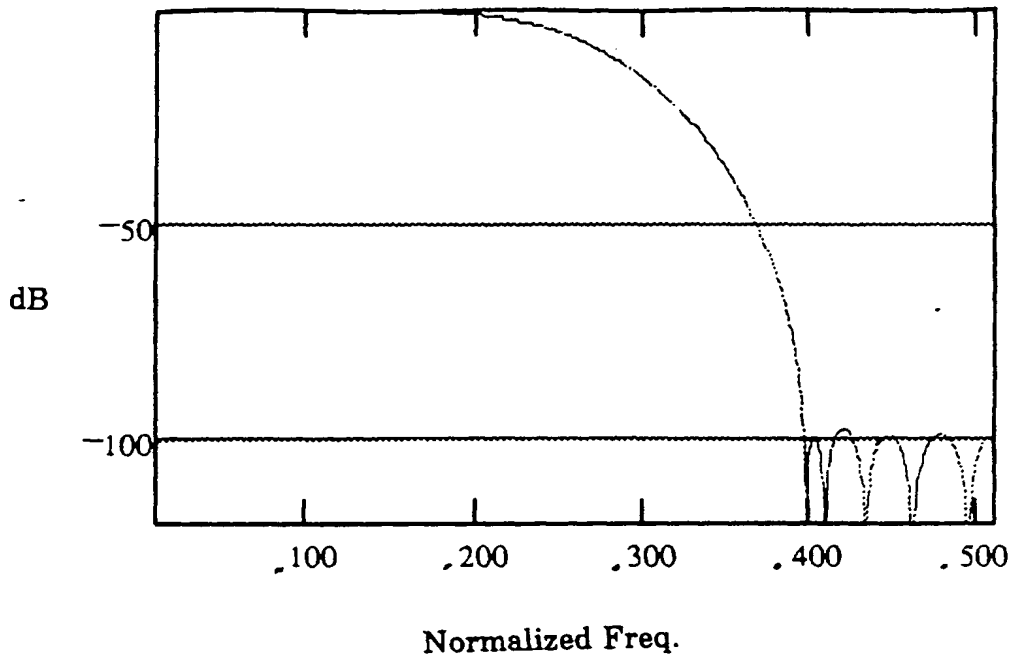


FIGURE 94

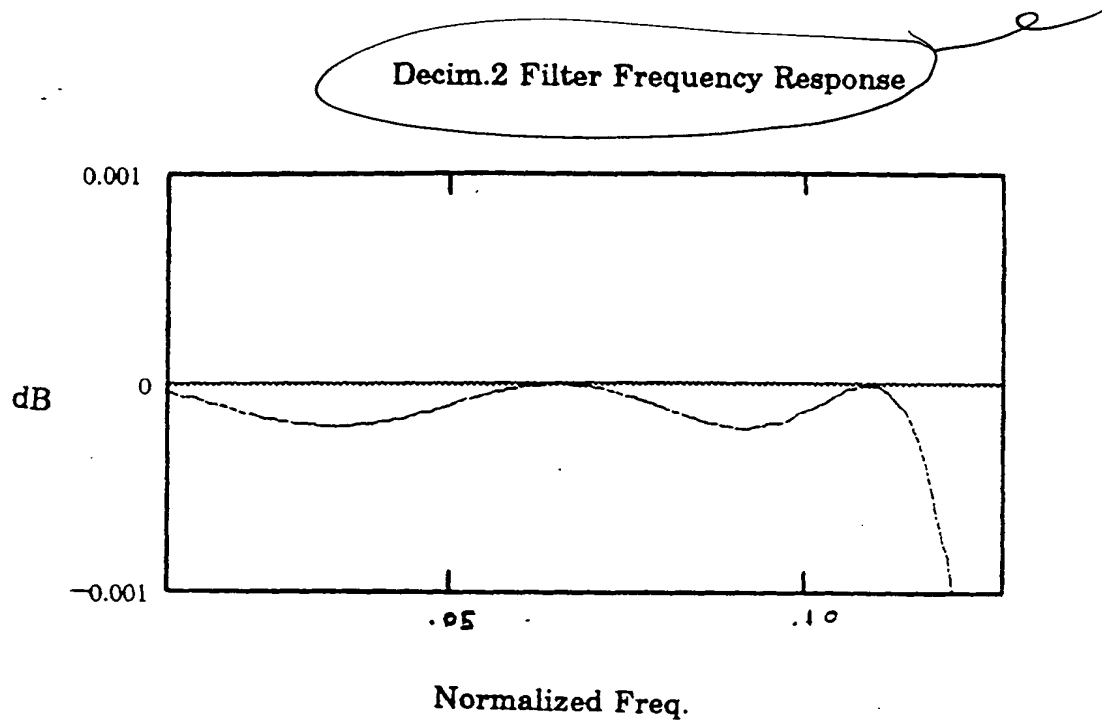


FIGURE 95

Decim.3 Filter Frequency Response

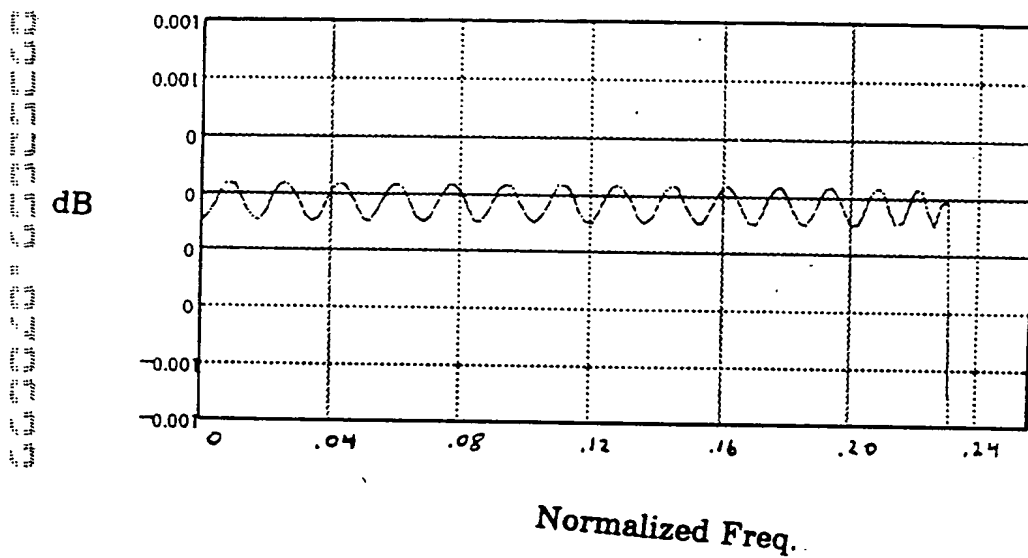


FIGURE 98

Compensator Freq. Response

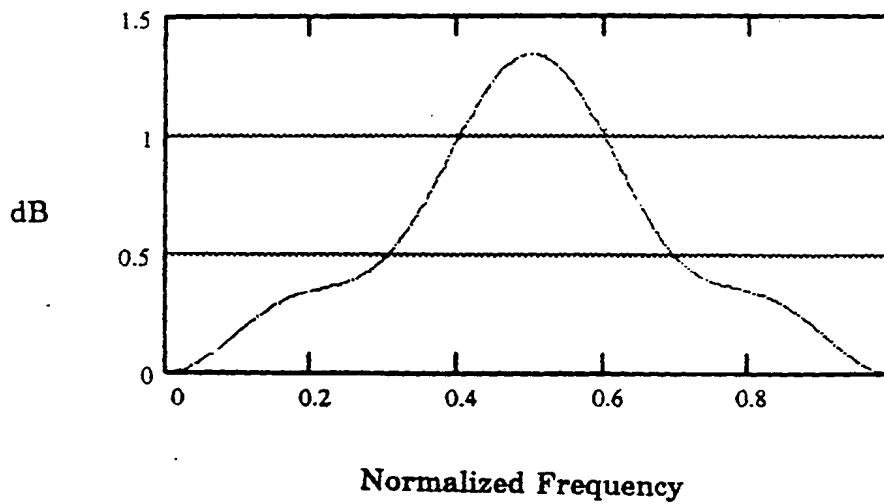


FIGURE 99

TOTAL FREQ. RESPONSE OF Decimator IN PASSBAND (UNCOMPENSATED)

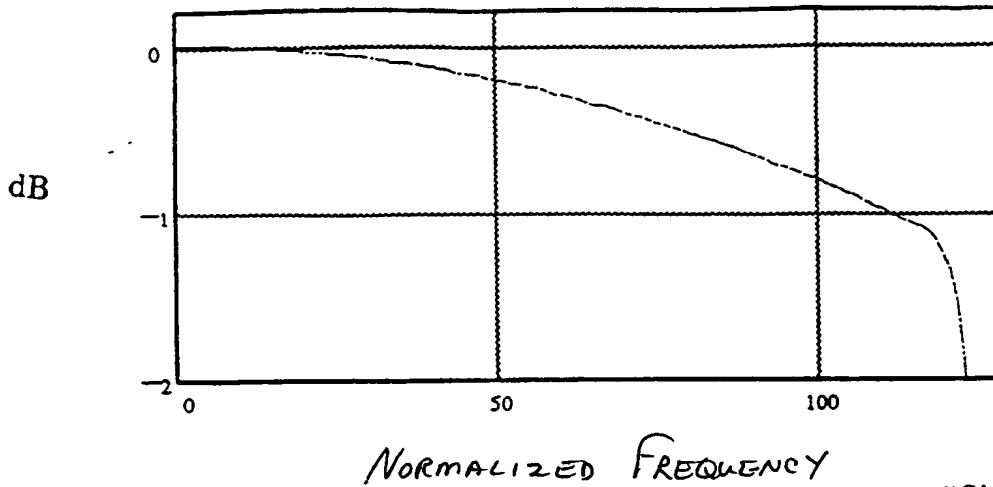


FIGURE 100

TOTAL FREQ. RESPONSE OF Decimator IN PASSBAND (COMPENSATED)

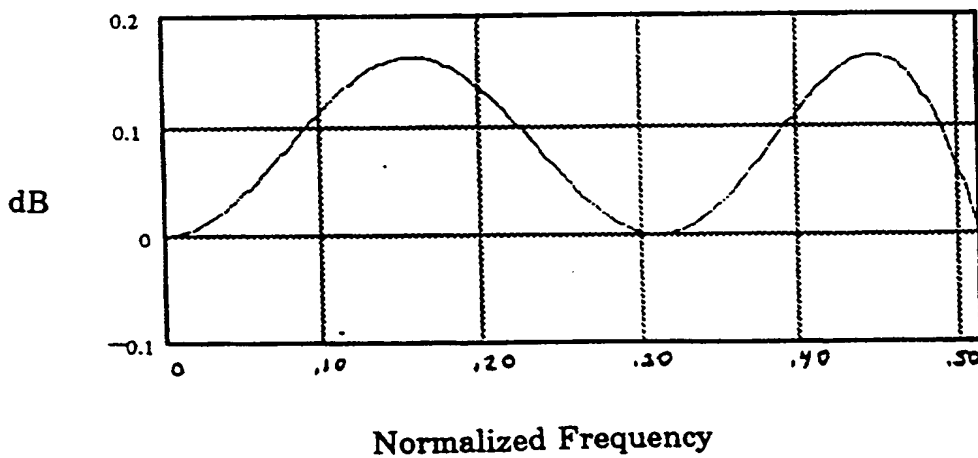


FIGURE 101

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